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NIOSH
Fire Fighter Fatality Investigation and Prevention Program

Death in the line of duty...

A Summary of a NIOSH fire fighter fatality investigation *May 25, 2000*

A Volunteer Fire Fighter Dies of Head Injuries After Falling Off a Responding Open-Cab Ladder Truck - Pennsylvania

SUMMARY

On November 2, 1999, a volunteer fire fighter sustained a traumatic head injury after falling off a responding open-cab ladder truck (Photo 1). This injury led to his death the following day. The victim was part of a volunteer crew of six personnel which also included a driver, an officer, and three other fire fighters. The crew was responding to provide mutual-aid assistance to an adjoining community. As the ladder truck was leaving the station, the victim was reported to be standing behind the officer and Fire Fighter #1 (Figure 1) in the open crew compartment of the vehicle. None of the responding personnel reported wearing seat belts. Shortly after the ladder truck left the fire station and completed the second turn (Figure 2), Fire Fighter #1 realized the victim was missing and signaled to have the ladder truck stopped. The crew dismounted the ladder truck and ran back to the victim, who was lying in the roadway. They gave him emergency medical care, and he was transported to a local hospital where he died the following day. NIOSH investigators concluded that, to minimize the risk of similar occurrences, fire departments should

- ***ensure that the emergency fire apparatus are equipped and functional to provide adequate safety for the riders and drivers/operators***
- ***ensure that all fire fighters who ride on emergency fire apparatus are seated and secured by seat belts***

INTRODUCTION

On November 2, 1999, a 38-year-old male volunteer fire fighter (the victim) sustained a traumatic head injury after falling off a responding piece of fire apparatus. He died the following day of his injuries. As the open-cab ladder truck was leaving the station, the victim was reported to be standing behind the officer and Fire Fighter #1 in the crew area of the vehicle. None of the responding personnel reported wearing seat belts. On November 3, 1999, the United States Fire Administration (USFA) notified the National Institute for Occupational Safety and Health (NIOSH) of this incident, and on December 2-3, 1999, a NIOSH investigation team consisting of a Safety Engineer and an Occupational Safety and Health Specialist traveled to Pennsylvania to investigate this incident. Meetings were conducted

Open-Cab Ladder Truck

The **Fire Fighter Fatality Investigation and Prevention Program** is conducted by the National Institute for Occupational Safety and Health (NIOSH). The purpose of the program is to determine factors that cause or contribute to fire fighter deaths suffered in the line of duty. Identification of causal and contributing factors enable researchers and safety specialists to develop strategies for preventing future similar incidents. To request additional copies of this report (specify the case number shown in the shield above), other fatality investigation reports, or further information, visit the Program Website at:

http://www.cdc.gov/niosh/firehome.html

or call toll free **1-800-35-NIOSH**

Discussion: Over the years, the fire service has taken measures to reduce the loss of fire fighters in the line of duty. One of these measures is prohibiting fire fighters to ride the "back-step." However, standing in the crew area is frequently permitted as an alternative riding practice. Standing on a moving (either responding or returning) piece of fire apparatus is a dangerous practice because any loss of balance can result in the fire fighter being thrown from the apparatus. Fire fighters must be seated and use the seat belt intended for that riding position. The requirement that all drivers shall not move fire department vehicles until all persons on the vehicle are seated and secured with seat belts in approved riding positions must be clearly and effectively communicated to all members of the fire department. One way to convey this message is by developing and maintaining written risk management plans that include vehicle operations. The need to periodically inspect and maintain properly installed seat belts and other occupant restraint systems should be outlined as part of the fire department's risk management plan as well. Fire fighters make many life-and-death decisions during a tour of duty, and one of the most important is snapping on a seat belt after climbing aboard an emergency apparatus that has been called to respond.

REFERENCES

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2. International Fire Service Training Association [1998]. Essentials of fire fighting. 4th ed. Stillwater, OK: Oklahoma State University, Fire Protection Publications.

3. International Fire Service Training Association [1998]. Fire department pumping apparatus. 6th ed. Stillwater, OK: Oklahoma State University, Fire Protection Publications.

4. Dunn, V [1992]. Responding and returning dangers. In: Safety and survival on the fireground. Saddle Brook, New Jersey: Fire Engineering Books & Videos, p. 37.

INVESTIGATOR INFORMATION

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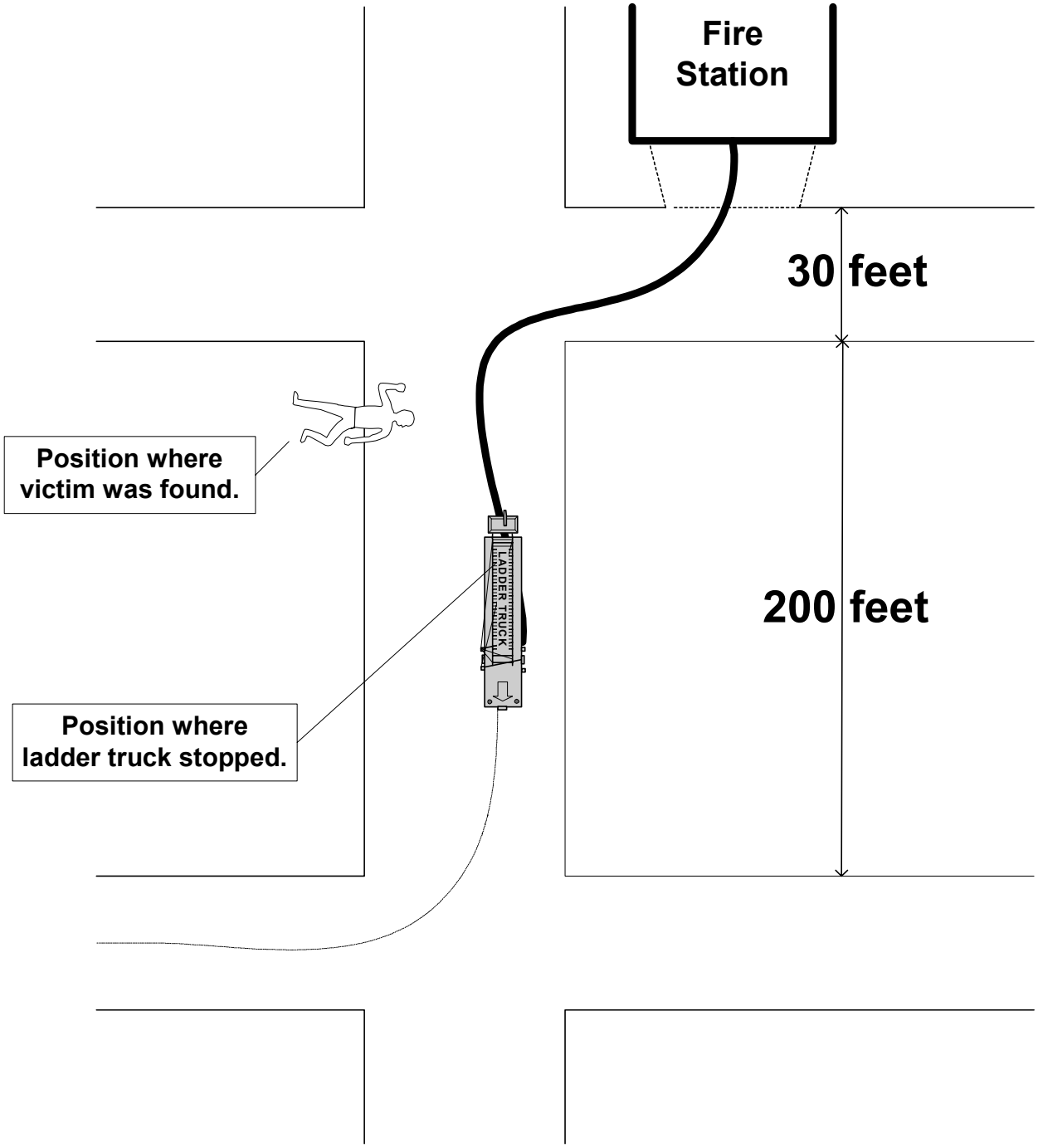

Figure 2. *Incident Site*